



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,836	10/30/2003	Italo Busi	Q77975	7215
72875	7590	06/23/2008	EXAMINER	
SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			SOL, ANTHONY M	
			ART UNIT	PAPER NUMBER
			2619	
			NOTIFICATION DATE	DELIVERY MODE
			06/23/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com
kghyndman@sughrue.com
USPatDocketing@sughrue.com

Office Action Summary	Application No.	Applicant(s)	
	10/695,836	BUSI ET AL.	
	Examiner	Art Unit	
	ANTHONY SOL	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 March 2008.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-13 and 15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 7-12 is/are allowed.

6) Claim(s) 1,13 and 15 is/are rejected.

7) Claim(s) 2-6 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/30/2003.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application

6) Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 3/14/2008 is acknowledged.
- Claims 1, 9, 10, 13, and 15 have been amended.
- Claim 14 has been canceled.
- Claims 1-13 and 15 are now pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pub. No. US 2007/0220232 A1 ("Rhoades") in view of Pub. No. US 2004/0052257 A1 ("Abdo").

Regarding claims 1,13, and 15,

Rhoades shows in fig. 8 in the incoming direction, validating IP packets by performing checks ("Determine Protocol"), managing options field by interpreting all the options that a first termination block understands and preserving unaltered all other options ("Identify Specialised Packets" and "Extract QoS Information"), filtering ("Packet Lifetime Calculations"; para. 250, *if the counter reaches zero then the packet is discarded*), deciding first next layer decision and forwarding (It is inherent that if the

equipment is the destination, the packet would be sent to the next layer, such as layer 4 as discussed in paras. 196-197 for further processing or if the equipment is not the destination, the packet would be forwarded as discussed in paras. 109-110), in the outgoing direction, managing TTL by considering a valid packet any IP packet addressed to the equipment and with TTL equal to 0 (It is inherent that any packet with TTL=0 will not be discarded as long as the equipment is the destination), managing source address (It is inherent that the router will manage the source address of a packet), managing options field by interpreting all the options that said first termination block understands and preserving unaltered all other options (already discussed above), fragmenting packets when the packet to be routed has a size greater than a Maximum Transmission Unit (para. 110, *Datagrams which are read from data buffer blocks by SIMD processors may thus be fragmented*).

Rhoades does not disclose managing redirect by checking if the packet that is going to be sent satisfies the following conditions: the IP packet has been received from a same interface over which it is going out, the source address belongs to a sub-network of a next-hop, there is no source route option.

Abdo discloses sending an ICMP redirect message to inform the sending device that the packet with the special destination network should be sent to some other router (para. 130).

It would have been *prima facie* obvious to one of ordinary skill in the art at the

time of the invention was made to modify the data processing system of Rhoades to provide a method for sending ICMP redirect messages as taught by Abdo. One skilled in the art would have been motivated to make the combination because the router that received the packet does not know how to forward a packet with that address, which is outside of the expected address range of the address realm (Abdo, para. 130).

Allowable Subject Matter

3. Claims 2-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 7-12 are allowed.

Response to Arguments

5. Applicant's arguments filed 3/14/2008 have been fully considered but they are not persuasive.
 - Applicant argues on pg. 16 of the Remarks that there is no teaching or suggestion in Rhoades of equipment comprising a first box containing layer 4 protocols, and a second box containing hardware interfaces and layer 2 drivers as recited in claim 1.

- The Examiner respectfully disagrees. Rhoades discloses a layer 4 protocol (para. 197). Rhoades further discloses MAC components (para. 227) which represent layer 2 as is very well known in the art of network communications.
- Applicant argues on pg. 17 of the Remarks that there is no teaching or suggestion of “in the incoming direction: validating IP packets by performing checks, managing options field by interpreting all the options that said first termination block understands and preserving unaltered all other options, and filtering,” as claimed.
- The Examiner respectfully disagrees. In the rejection above regarding claim 1, the limitation is addressed, namely:

“validating IP packets by performing checks (“Determine Protocol”), managing options field by interpreting all the options that a first termination block understands and preserving unaltered all other options (“Identify Specialised Packets” and “Extract QoS Information”), filtering (“Packet Lifetime Calculations”; para. 250, *if the counter reaches zero then the packet is discarded*), deciding first next layer decision and forwarding (It is inherent that if the equipment is the destination, the packet would be sent to the next layer, such as layer 4 as discussed in paras. 196-197 for further processing or if the equipment is not the destination, the packet would be forwarded as discussed in paras. 109-110)”

As for the assertion that the Fig. 8 merely illustrates an overlap of processor operations where specialized packets are identified and QoS information is extracted quoting the text of the specification in regards to Fig. 8, the

Examiner maintains that “Identify Specialized Packets” maps to “preserving unaltered all other options” and “Extract QoS Information” maps to “interpreting all the options that a first termination block understands.” For example, Rhoades explains in para. 246 regarding “Identify Specialized Packets” that unusual packets are identified in the data plane and **forwarded** to the control plane for specialized processing.

- The Applicant further argues on pg. 17, regarding the Examiner’s assertion that the limitations “managing TTL by considering a valid packet any IP packet addressed to the equipment and with TTL equal to zero” and “managing source address” are inherent, that the Examiner has not provided a basis in fact or in technical reasoning and appears to merely assert the Examiner’s personal reasoning in supporting the inherency argument.
- The Examiner respectfully disagrees. As detailed in the rejection to claim 1 above, a packet would be sent to the next layer, such as layer 4 as discussed in Rhoades’ paras. 196-197 for further processing if the packet were addressed to the equipment. It is well known that layer 4 (typically the transport layer) is concerned with end-to-end connectivity. Therefore, if the TTL is equal to zero and the packet is addressed to the equipment, the packet would be considered valid and processed accordingly, such as performing a lookup as discussed in para. 197. In such a lookup, a “source address” would further be “managed” in order to perform such a lookup.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY SOL whose telephone number is (571)272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Anthony Sol/
Examiner, Art Unit 2619
6/24/2008

/Wing F. Chan/
Supervisory Patent Examiner, Art Unit 2619
6/18/08